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Ames

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MULTIPLEXED FIBER LASER SENSOR SYSTEM

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(58) **Field of Search** 356/477, 478, 356/479; 385/12, 24

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(57) ABSTRACT

The present invention relates to a sensor interrogation system which comprises an optical fiber, at least one sensor containing first and second fiber lasers attached to the optical fiber with the first fiber laser being located spectrally at a first wavelength and the second fiber laser being located spectrally at a second wavelength different from the first wavelength, a pump laser for causing light to travel down the optical fiber so as to cause each of the fiber lasers to lase at its distinct wavelength and generate a distinct laser signal representative of the distinct wavelength, at least one filter for receiving the laser signals generated by the first and second lasers and for transmitting the laser signals from the first and second lasers within a wavelength band, and first and second scanning Fabry-Perot spectrum analyzers for receiving the laser signals for determining the wavelength difference between said fiber lasers.

28 Claims, 2 Drawing Sheets